

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-007034**Date Inspected:** 11-Feb-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei / Sun Bo**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Components**Summary of Items Observed:**

The Caltrans (CT) Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

Heavy Equipment Shop Bay 10:

The QA Inspector randomly observed 1 ZPMC welder utilizing the Shielded Metal Arc Welding (SMAW) Process with ZPMC Weld Procedure Specification (WPS) WPS-B-P-2312-TC-P5 in the 2G (Horizontal Groove) Position, to tack weld a longitudinal stiffener to Lift 2 Skin "B" North. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed a ZPMC welder utilizing the Carbon Air Arc Gouging Process to excavate areas marked "UT Rejects", in WJ NSD1-SA166D/F-24B attaching a longitudinal stiffener to Lift 2 North Skin "A". Lift 2 Skin Plate "A" North was placed in a jig with WJ NSD1-SA166D/F-24B in the flat position.

The QA Inspector randomly observed 1 ZPMC welder utilizing the SMAW Process with ZPMC WPS WPS-B-P-2312-TC-P5 in the 2G (Horizontal Groove) Position, to tack weld a longitudinal stiffener to Lift 2 Skin "A" South. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

Heavy Equipment Shop Bay 11:

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The QA Inspector randomly observed 1 ZPMC welder utilizing the SMAW Process with ZPMC WPS WPS-345-SMAW-2G (2F) in the 2G (Horizontal Groove) Position, to perform weld repairs to WJ WSD1-SA39G/K-17A per ZPMC Weld Repair Request (WRR) T-WR837 after removal of defects recorded on ZPMC Non-Destructive Report T787-UT-1157. WJ WSD1-SA39G/K-17A attaches a longitudinal stiffener to Lift 2 Skin "A" South. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed 5 ZPMC welders utilizing the SMAW Process with ZPMC WPS WPS-345-SMAW-2G (2F) in the 2G (Horizontal Groove) Position, to overlay weld metal to a longitudinal bevel Lift 2 Skin "C" South per ZPMC WRR T-WR838, across piece marks p57+p1178+p1460 to correct dimensional non-compliances. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations to reduce weld induced distortion from welding the longitudinal stiffeners to Lift 1 Skin "C" West. This work was being performed in accordance with ZPMC HSR HSR1 (T)-7255 Rev. 0.

The QA Inspector randomly observed ZPMC welder Cao Jian Bin ID 058009, utilizing the SMAW Process with ZPMC WPS WPS-345-SMAW-2G (2F) in the 2G (Horizontal Groove) Position, to perform weld repairs to WJ WSD1-SA340E/F-30A Lift 2 Skin "A" West. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Xia Yong Zhong ID 040625, utilizing the Submerged Arc Welding (SAW) Process with ZPMC WPS WPS-B-T-2221-B-U3c-S-2 in the 1G (Flat Groove) Position, to perform weld repairs to WJ ESD1-FASA3-2A/E-4A Lift 2 Skin "A" East. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

OBG Sub-Assembly Bay 12:

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations to reduce weld induced distortion from welding the T=35 mm thick I-Ribs to Deck Plate 1AE-DP585-001 at Complete Joint Penetration (CJP) Weld Joint (WJ) Numbers 011, 013, 015, and 017. 1AE-DP585-001 is placed upside down with heat being applied directly to the welds attaching the T=35 millimeter (mm) I-Ribs to Deck Plate 1AE-DP585-001. The QA Inspector randomly observed that jacks (passive) were in place, but no counter weights. This work was being performed in accordance with ZPMC Heat Straightening Request (HSR) HSR (B)-263 Rev. 0.

The QA Inspector randomly observed ZPMC welder Song Yin Shu ID 059421, utilizing the Flux Cored Arc Welding (FCAW) Process in the 2G/2F (Horizontal Groove/Horizontal Fillet) Positions, with ZPMC Weld Procedure Specification (WPS) WPS-345-FCAW-2G (2F)-Repair-1 to weld an R1 repair to WJ 019 attaching a T=35 mm I-Rib to the base plate of Deck Plate 1AE-DP560-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

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The QA Inspector randomly observed ZPMC welder Lu Liang ID 059373, utilizing the Gas Metal Arc Welding (GMAW) Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-2342-U5 (U-Rib) to weld the root pass in the welds attaching U-Rib Extensions to the base plate of Deck Plate 1AW-DP550-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Han Guo Dong ID 062259, utilizing the FCAW Process in the 3G (Vertical Groove/Vertical Fillet) Positions with ZPMC WPS WPS-345-FCAW-3G(3F)-Repair-1, to perform a weld repair to a vertical weld attaching a T=35 mm I-Rib to the closure diaphragm on Deck Plate 1AE-DP595-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed 1 ZPMC helper utilizing an angle grinder, to blend the cover pass on the welds attaching the T=35 mm I-Ribs to the U-Rib closure diaphragm on Deck Plate 1AW-DP615-001.

Plate Storage Yard:

The QA Inspector verified material traceability of steel plate from Batch 216 to be cut for a Check Sampling, identified the areas to be cut with Caltrans Lot Numbers B216-14-09 through B216-25-09 and the direction of rolling. The cut Check Samples will be prepared for shipment to the testing lab in Shanghai.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

Summary of Conversations:

No relevant conversations.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 150-0042-2372, who represents the Office of Structural Materials for your project.

Inspected By:	Franco,Charlie	Quality Assurance Inspector
Reviewed By:	Clifford,William	QA Reviewer
